changes in the facility or the maintenance manual or maintenance organization. The owner must then correct the deficiencies, if any, and operate the facility for an in-service evaluation by the FAA.

[Doc. No. 5034, 29 FR 11337, Aug. 6, 1964, as amended by Amdt. 171–7, 35 FR 12711, Aug. 11, 1970]

§171.5 Minimum requirements for approval.

(a) The following are the minimum requirements that must be met before the FAA will approve an IFR procedure for a non-Federal VOR:

(1) The facility's performance, as determined by air and ground inspection, must meet the requirements of §171.7.

(2) The installation of the equipment must meet the requirements of §171.9.

(3) The owner must agree to operate and maintain the facility in accordance with §171.11.

(4) The owner must agree to furnish periodic reports, as set forth in §171.13, and must agree to allow the FAA to inspect the facility and its operation whenever necessary.

(5) The owner must assure the FAA that he will not withdraw the facility from service without the permission of the FAA.

(6) The owner must bear all costs of meeting the requirements of this section and of any flight or ground inspections made before the facility is commissioned, except that the Federal Aviation Administration may bear certain of these costs subject to budgetary limitations and policy established by the Administrator.

(b) If the applicant for approval meets the requirements of paragraph (a) of this section, the FAA commissions the facility as a prerequisite to its approval for use in an IFR procedure. The approval is withdrawn at any time the facility does not continue to meet those requirements.

[Doc. No. 5034, 29 FR 11337, Aug. 6, 1964, as amended by Amdt. 171–6, 35 FR 10288, June 24, 1970]

§171.7 Performance requirements.

(a) The VOR must perform in accordance with the ''International Standards and Recommended Practices, Aeronautical Telecommunications,'' Part I, paragraph 3.3 (Annex 10 to the Convention on International Civil Aviation), except that part of paragraph 3.3.2.1 specifying a radio frequency tolerance of 0.005 percent, and that part of paragraph 3.3.7 requiring removal of only the bearing information. In place thereof, the frequency tolerance of the radio frequency carrier must not exceed plus or minus 0.002 percent, and all radiation must be removed during the specified deviations from established conditions and during periods of monitor failure.

(b) Ground inspection consists of an examination of the design features of the equipment to determine that there will not be conditions that will allow unsafe operations because of component failure or deterioration.

(c) The monitor is checked periodically, during the in-service test evaluation period, for calibration and stability The tests are made with a standard ''Reference and variable phase signal generator'' and associated test equipment, including an oscilloscope and portable field detector. In general, the ground check is conducted in accordance with section 8.4 of FAA Handbook AF P 6790.9 ''Maintenance Instruction for VHF Omniranges'', adapted for the facility concerned.

(d) Flight tests to determine the facility's adequacy for operational requirements and compliance with applicable ''Standards and Recommended Practices'' are conducted in accordance with the ''U.S. Standard Flight Inspection Manual'', particularly section 201.

(e) After January 1, 1975, the owner of the VOR shall modify the facility to perform in accordance with paragraph 3.3.5.7 of Annex 10 to the Convention on International Civil Aviation within 180 days after receipt of notice from the Administrator that 50 kHz channel spacing is to be implemented in the area and that a requirement exists for suppression of 9960 Hz subcarrier harmonics.

[Doc. No. 5034, 29 FR 11337, Aug. 6, 1964, as amended by Amdt. 171–7, 35 FR 12711, Aug. 11, 1970; Amdt. 171–9, 38 FR 28557, Oct. 15, 1973]

§171.9 Installation requirements.

(a) The facility must be installed according to accepted good engineering

practices, applicable electric and safety codes, and the installation must meet at least the Federal Communication Commission's licensing requirements.

(b) The facility must have a reliable source of suitable primary power, either from a power distribution system or locally generated, with a supplemental standby system, if needed.

(c) Dual transmitting equipment with automatic changeover is preferred and may be required to support certain IFR procedures.

(d) There must be a means for determining, from the ground, the performance of the equipment, including the antenna, initially and periodically.

(e) A facility intended for use as an instrument approach aid for an airport must have or be supplemented by (depending on circumstances) the following ground-air or landline communications services:

(1) At facilities outside of and not immediately adjacent to controlled airspace, there must be ground-air communications from the airport served by the facility. Separate communications channels are acceptable.

(2) At facilities within or immediately adjacent to controlled airspace, there must be the ground-air communications required by paragraph (e)(1) of this section and reliable communications (at least a landline telephone) from the airport to the nearest FAA air traffic control or communication facility.

Paragraphs (e) (1) and (2) of this section are not mandatory at airports where an adjacent FAA facility can communicate with aircraft on the ground at the airport and during the entire proposed instrument approach procedure. In addition, at low traffic density airports within or immediately adjacent to controlled airspace and where extensive delays are not a factor, the requirements of paragraphs (e) (1) and (2) of this section may be reduced to reliable communications (at least a landline telephone) from the airport to the nearest FAA air traffic control or communication facility, if an adjacent FAA facility can communicate with aircraft during the proposed instrument approach procedure, at least down to the minimum en route altitude for the controlled airspace area.

[Doc. No. 5034, 29 FR 11337, Aug. 6, 1964, as amended by Amdt. 171–7, 35 FR 12711, Aug. 11, 1970; Amdt. 171–16, 56 FR 65664, Dec. 17, 1991]

§ 171.11 Maintenance and operations requirements.

(a) The owner of the facility must establish an adequate maintenance system and provide qualified maintenance personnel to maintain the facility at the level attained at the time it was commissioned. Each person who maintains a facility must meet at least the Federal Communications Commission's licensing requirements and show that he has the special knowledge and skills needed to maintain the facility including proficiency in maintenance procedures and the use of specialized test equipment.

(b) The owner must prepare, and obtain FAA approval of, an operations and maintenance manual that sets forth mandatory procedures for operations, preventive maintenance, and emergency maintenance, including instructions on each of the following:

(1) Physical security of the facility.

(2) Maintenance and operations by authorized persons only.

(3) FCC licensing requirements for operating and maintenance personnel.

(4) Posting of licenses and signs.

(5) Relations between the facility and FAA air traffic control facilities, with a description of the boundaries of controlled airspace over or near the facility, instructions for relaying air traffic control instructions and information (if applicable), and instructions for the operation of an air traffic advisory service if the VOR is located outside of controlled airspace.

(6) Notice to the Administrator of any suspension of service.

(7) Detailed and specific maintenance procedures and servicing guides stating the frequency of servicing.

(8) Air-ground communications, if provided, expressly written or incorporating appropriate sections of FAA manuals by reference.

(9) Keeping of station logs and other technical reports, and the submission of reports required by § 171.13.

(10) Monitoring of the facility.